AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-45. (Cancelled).

46. (Previously Presented) A device for delivering a conduit into the wall of a patient's heart to place the conduit in communication with a heart chamber, the device comprising:

a support member having a length, a proximal end and a distal end;

a conduit supported by the support member;

a sheath overlying at least a portion of the conduit, the sheath being movable to selectively expose the portion of the conduit covered by the sheath; and

wherein the sheath is moved to expose said portion of the conduit upon positioning the support member and conduit at a desired location within the wall of the heart.

47. (Previously Presented) The device of claim 46, wherein the support member comprises a hollow member that removably receives a dilator for forming an opening in the heart wall.

48. (Previously Presented) The device of claim 46, wherein the conduit comprises a tubular member, and the sheath comprises a sleeve overlying the conduit.

49. (Previously Presented) The device of claim 48, wherein the conduit has two open ends and a plurality of openings disposed between the two ends.

50. (Previously Presented) The device of claim 46, wherein the conduit comprises an expandable tubular element and the sheath comprises a retractable sleeve that overlies the tubular element.

51. (Previously Presented) The device of claim 50, wherein the expandable tubular element comprises a stent and the support member comprises a shaft on which the stent is mounted.

52. (Previously Presented) A method for placing a conduit in the wall of a patient's heart, the method comprising steps of:

(a) providing a support member and a conduit;

(b) passing the support member and the conduit through a wall of a coronary vessel and through the wall of a patient's heart;

(c) positioning the conduit within the wall of the heart; and

(d) removing the support member from the wall of the heart.

53. (Previously Presented) The method of claim 52, wherein a sheath overlies the conduit, and further comprising the step of moving the sheath to expose the conduit once the shaft and conduit are positioned in the wall of the heart.

54. (Previously Presented) The method of claim 53, wherein the conduit is expandable and further comprising the step of expanding the conduit within the wall of the heart.

55. (Previously Presented) The method of claim 52, wherein step (b) is carried out by first forming an opening extending at least partially through the wall of the heart and then passing the support member through the opening.

56. (Previously Presented) The method of claim 52, wherein the conduit is passed through a wall of a coronary vessel and through the wall of the heart into a heart chamber containing oxygenated blood, and the conduit is positioned so as to place the heart chamber in communication with the interior of the coronary vessel.

57. (Previously Presented) The method of claim 55, wherein the coronary vessel is a coronary artery and the heart chamber is the left ventricle.

58. (Previously Presented) The method of claim 56, further comprising positioning a support member within the coronary vessel to support the wall of the vessel during at least steps (b) and (c).

59. (Previously Presented) The method of claim 56, wherein the support member is positioned within the coronary vessel while carrying out steps (b) and (c) and then is removed from the vessel.

60. (Previously Presented) A method for placing and expanding a conduit in the wall of a patient's heart, the method comprising steps of:

(a) providing a support member and a conduit, the conduit being supported in a collapsed orientation and movable to an expanded orientation;

(b) placing the support member and the conduit in a wall of a patient's heart;

(c) positioning the conduit within the wall of the heart;

(d) expanding the conduit to the expanded orientation; and

(e) removing the support member and leaving the conduit in the wall of the heart.

61. (Previously Presented) The method of claim 60, wherein the conduit is passed through a wall of a coronary vessel and through the wall of the heart into a heart chamber containing oxygenated blood, the conduit placing the heart chamber in communication with the interior of the coronary vessel.

62. (Previously Presented) The method of claim 61, wherein the coronary vessel is a coronary artery and the heart chamber is the left ventricle.

63. (Previously Presented) The method of claim 61, wherein the conduit is positioned in the wall of the heart so that one end of the conduit extends partially into the heart chamber.

64. (Previously Presented) A device for forming a channel that extends at least partially through the wall of a patient's heart and communicates with a heart chamber, the device comprising:

a shaft having a length, a proximal end and a distal end; and

a tissue removal mechanism movably supported on the shaft so as to be movable along the length of the shaft, the tissue removal mechanism including a tissue-removing portion that is actuated to remove a section of tissue from a patient's heart to form a channel that extends at least partially through the heart wall and communicates with a heart chamber; wherein the tissue removal mechanism is moved along at least a portion of the length of the shaft into contact with the section of heart tissue and is actuated to remove the section of tissue.

65. (Previously Presented) The device of claim 64, wherein the tissue-removing mechanism comprises a coring tool slidably mounted on the shaft.

66. (Previously Presented) The device of claim 65, wherein the tissue-removing mechanism is moved along a portion of the length of the shaft to contact the section of tissue and then is rotated with respect to the shaft to cut the section of tissue from the heart wall.

67. (Previously Presented) A method for forming a channel that extends through the wall of a patient's heart to communicate a coronary vessel with a heart chamber, the method comprising:

placing a shaft through an outer wall of a coronary vessel and into an interior lumen of the vessel, the shaft having a portion configured to remove tissue from the heart wall;

placing the shaft through an inner wall of the coronary vessel and placing said portion of the shaft in contact with the heart wall; and

using the shaft to remove tissue from the heart wall to form a channel that extends through the heart wall and communicates the coronary vessel with a heart chamber.

68. (Previously Presented) The method of claim 67, wherein said portion of the shaft has a tissue-removing mechanism comprising a coring tool.

69. (Previously Presented) The method of claim 68, wherein the coring tool is rotated to cut the section of tissue from the heart wall.

70. (Previously Presented) A method for introducing a medical device through a coronary vessel and the wall of a patient's heart to perform a medical procedure, the method comprising steps of:

positioning a guide member through a coronary vessel and the wall of a patient's heart into a heart chamber;

providing a medical device configured to carry out a medical procedure on the heart; and

using the guide member to introduce the medical device into the heart wall.

71. (Previously Presented) An implantable body fluid shunt device for providing fluid communication between body vessels of a patient, said device comprising:

a generally elongated shunt body having proximal and distal ends, said shunt body being formed of a rigid, biocompatible material;

said shunt body having:

a first proximal aperture and at least one second aperture longitudinally spaced along said shunt body from said first aperture; and

a diversion tube having a predetermined shape providing fluid communication between said first aperture and said at least one second aperture;

wherein, in use, said device is implanted in a patient such that said first aperture is disposed within a first vessel, and said at least one second aperture is disposed in a second vessel.

72. (Previously Presented) The implantable shunt device of claim 71, wherein said shunt body further comprises a spike portion at a distal end thereof.

73. (Previously Presented) The implantable shunt device of claim 71, wherein said shunt body further comprises expansible retention members at a distal end thereof.

74. (Previously Presented) The implantable shunt device of claim 71, wherein said device provides transmyocardial blood perfusion, and wherein said second aperture is adjacent said distal end of said shunt body and in use is disposed within the left ventricle of a patient.

75. (Previously Presented) The implantable shunt device of claim 74, wherein the first aperture is adjacent said proximal end of said shunt body and in use is disposed within a coronary artery of a patient.

76. (Previously Presented) The implantable shunt device of claim 72, wherein the second aperture in use is situated within the coronary artery of a patient and wherein said spike portion is disposed within the myocardium.

77. (Previously Presented) The implantable shunt device of claim 76, wherein the first aperture is adjacent said proximal end of said shunt body, wherein said first aperture is disposed within a venous or arterial graft.

78. (Previously Presented) A device for establishing flow communication between a first portion of a coronary artery and a second portion of a coronary artery located on opposite sides of a blockage, comprising:

a first conduit device located at the first portion of the coronary artery and configured to establish flow communication between a coronary artery interior and an exterior to the coronary artery;

a second conduit device located at the second portion of the coronary artery and configured to establish flow communication between the coronary artery interior and the exterior of the coronary artery;

a vessel having a first end and a second end; and

first and second vessel disc members respectively attached to each of the first end and the second end of the vessel, each of the vessel disc members configured to engage with a conduit device disc member of each of the first and second conduit devices, respectively, to establish flow communication between the first conduit device and the second conduit device through the vessel exterior to the coronary artery.

79. (Previously Presented) A stent for placement in a heart wall to establish flow communication between a chamber of the heart and a coronary vessel, comprising:

a hollow conduit, wherein at least a portion of the hollow conduit has a parallelpiped configuration; and

a movable flap disposed at an end of said conduit proximate the portion having the parallelpiped configuration, the movable flap being configured to control blood flow through the conduit when the conduit is placed in the heart wall.

80. (Previously Presented) A conduit for connecting a heart chamber to a coronary vessel, comprising:

an access port disposed in a wall surrounding the heart chamber, the access port having a first end disposed in the heart chamber, a second end disposed external to the heart chamber, and a flange portion disposed around the access port and configured to be disposed adjacent an outer surface of the heart wall; and

a hollow graft segment having one end connected to the second end of the access port and the other end anastomosed to the coronary vessel.

81. (Previously Presented) A shunt device for providing flow communication between a heart chamber and a coronary vessel, comprising

a hollow conduit disposed in the myocardium, the conduit having a first end defining a first aperture disposed in the heart chamber and a second end disposed external to the coronary vessel, said conduit extending through a heart wall surrounding the chamber and across the coronary vessel between the first and second ends;

the conduit defining a second aperture disposed on a surface of the conduit disposed in said coronary vessel; and

a head portion attached to the second end of the conduit, said head portion configured to abut the coronary vessel to seal an opening in the coronary vessel created by the conduit and to prevent movement of the conduit within the coronary vessel.

82. (Previously Presented) A stent for establishing flow communication between a heart chamber and a coronary vessel, comprising:

a hollow conduit having a varying wall thickness disposed in a heart wall surrounding the heart chamber, the conduit having a first end disposed in the heart chamber, and a second end disposed in the coronary vessel,

wherein said conduit includes a bend located between said first end and said second end, and wherein the conduit defines a lumen that tapers from a largest diameter at the second end to a smallest diameter proximal the first end, and further wherein the wall of the conduit at the first end has a radius of curvature.

83. (Previously Presented) A stent for establishing flow communication between a heart chamber and a coronary vessel, comprising:

a curved hollow conduit disposed in a heart wall surrounding the chamber and having a first apertured end disposed in the heart chamber and a second apertured end disposed in the coronary vessel,

wherein said conduit defines a spiral flow path for blood flow between the heart chamber and the coronary vessel.

84. (Previously Presented) A stent for establishing flow communication between a heart chamber and a coronary vessel, comprising

a hollow conduit disposed in a heart wall surrounding the chamber, the conduit having a first end configured to be disposed in one of the heart chamber and the coronary vessel, and a second end configured to be disposed in the other of the heart chamber and the coronary vessel; and

wherein the hollow conduit defines a vortex chamber disposed between the first end and the second end, the vortex chamber configured to establish flow communication between the first end and the second end,

wherein the first end includes an axial flow port in the vortex chamber and the second end includes a tangential flow port in the vortex chamber.

85. (Previously Presented) A method of providing direct blood flow between a heart chamber and a coronary vessel, the method comprising the steps of:

inserting an instrument through an anterior wall of the coronary vessel to form an anterior wall aperture;

further inserting the instrument through a posterior wall of the coronary vessel and a heart wall between the heart chamber and the coronary vessel to form a passageway in the heart wall; and

inserting a stent within the passageway.

86. (Previously Presented) A device for use in a coronary vessel of a patient's heart, the device comprising:

an expandable stent including a bore defining a blood flow path and first and second portions, the first and second portions having different cross-sectional sizes when the stent is expanded;

wherein the first portion has a larger cross-sectional dimension than the second portion when the stent is expanded such that the stent is generally funnel-shaped when expanded; and

wherein the first and second portions of the stent are constructed to provide the stent with maximum radial strength when expanded.

87. (Previously Presented) The device of claim 86, wherein the stent is configured to be positioned and retained in a heart wall to place a coronary vessel in communication with a heart chamber.

88. (Previously Presented) The device of claim 86, wherein the stent has a plurality of openings along the length of the stent through which blood may flow.

89. (Previously Presented) A cardiac implant comprising:

(a) a scaffold defining an open interior volume, an open first end, and an opposite open second end;

(i) said open interior volume comprising a blood flow conduit to direct blood flow through the scaffold including through the open first end and the open second end;

(ii) said scaffold having an exterior surface and an opposite, interior surface;

(A) said interior surface lining said open, interior volume;

(b) a first therapeutic agent in at least partial covering relation to at least a first portion of one of said exterior surface and said interior surface; and

(c) a second therapeutic agent, different from said first therapeutic agent, in at least partial covering relation to at least a second portion of one of said exterior surface and said interior surface.

90. (Previously Presented) An implant according to claim 89 wherein:

(a) said first therapeutic agent comprises one of a therapeutic agent selected from the group consisting essentially of: drugs, genes, angiogenesis factors, growth factors, and pharmaceutical compounds.

91. (Previously Presented) An implant according to claim 90 wherein: (a) said second therapeutic agent comprises one of a therapeutic agent selected from the group consisting essentially of: drugs, genes, angiogenesis factors, growth factors, and pharmaceutical compounds.

92. (Previously Presented) An implant according to claim 89 wherein: (a) said first therapeutic agent is in covering relation to selected zones on at least one of said exterior surface and said interior surface.

93. (Previously Presented) A method for making a cardiac implant for establishing a blood flow path through a myocardium between a heart chamber and a lumen of a coronary vessel residing at an exterior of the myocardium; the method comprising:

(a) providing a scaffold defining an open interior volume, an open first end, and an opposite open second end;

(b) covering at least a first portion of the scaffold with a first therapeutic agent, and

(c) covering at least a second portion of the scaffold, different from the first portion, with a second therapeutic agent, different from the first therapeutic agent.

94. (Previously Presented) A method according to claim 93 wherein:

(a) said step of covering at least a first portion includes covering an interior surface adjacent to said open first end with a first therapeutic agent including one from the group consisting essentially of: drugs, genes, angiogenesis factors, growth factors, and pharmaceutical compounds.

95. (Previously Presented) A method according to claim 94 wherein:

(a) said step of covering at least a first portion includes covering an exterior surface adjacent to the open first end with the first therapeutic agent.

96. (Previously Presented) A method according to claim 95 wherein:

(a) said step of covering at least a second portion includes covering an interior surface adjacent to said open second end with a second therapeutic agent including one form the group consisting essentially of: drugs, genes, angiogenesis factors, growth factors, and pharmaceutical compounds.

97. (Previously Presented) A method according to claim 96 wherein: (a) said step of covering at least a second portion includes covering an exterior surface adjacent to the open second end with the second therapeutic agent.

98. (Previously Presented) A method for performing a coronary vessel bypass procedure for supplementing a flow of blood to a coronary vessel; the method comprising:

(a) forming a blood flow path from a heart chamber directly to the coronary vessel at a site in the vessel positioned between an obstruction in the vessel and tissue of the heart to be supplied with blood by the vessel;

(i) the forming including placing a conduit in a heart wall between the chamber and the vessel with a first end of the conduit protruding into the chamber and protruding beyond an interior surface of the heart wall;

(ii) the conduit including a first therapeutic agent in covering relation to at least a first portion and a second therapeutic agent in covering relation to at least a second portion.

99. (New) An assembly of catheters having alignable lumens, the assembly comprising:

a first catheter arranged for placement into a cavity of a body structure and having a first distal tip, a first alignment member carried proximate to the first distal tip, and a first lumen having a distal entrance; and

a second catheter arranged for placement into a cavity of another body structure and having a second distal tip, a second alignment member carried proximate to the second distal tip, and a second lumen having a distal entrance, the alignment member of one catheter being arranged to align with the alignment member of the other catheter, such that, when the alignment members align, the distal entrances of the first and second lumens also align.

100. (New) The assembly of claim 99, wherein one alignment member is an electrical signal source and another alignment member is an electrical signal sensor.

101. (New) The assembly of claim 99, wherein one alignment member is an ultrasound source and another alignment member is an ultrasound sensor.

102. (New) An instrument for forming an aperture between cavities of two proximate body structures and deploying a connector in the aperture, the instrument comprising:

a tubular structure arranged for placement in one of the cavities and having a sheath for deploying the connector;

a tissue-cutting member arranged to form the aperture in tissue between the cavities;

a guidewire following member; and

a sheath arranged for deploying the connector in the aperture.

103. (New) The instrument of claim 102, further including a movement control member having an extracorporeal portion and arranged for moving the instrument along a guidewire.

104. (New) The instrument of claim 102, wherein the tissue-cutting member includes a cutting aid selected from a group consisting of a thermal heating element, a laser energy emitter, an incising device, and a vibration device.

105. (New) The instrument of claim 102, wherein the tissue-cutting member includes a cutting aid selected from a group consisting of a thermal heating element, a laser energy emitter, a rotating drill, a reciprocating drill, an ultrasonic cavitation device, and a chemical device for dissolving tissue.

106. (New) The instrument of claim 102, wherein the guidewire following member includes arrangement for engaging a guidewire moved in a direction relative to the instrument.

107. (New) The instrument of claim 102, wherein the instrument includes arrangement for endovascular use.

108. (New) The instrument of claim 102, wherein the instrument includes arrangement for endovascular use in a beating heart.